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SPECIFICATION FOR FLANNELETTES
(Second Revision)

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Gr 3

August 1983

AMENDMENT NO. 1 APRIL 1990
TO
IS : 174 - 1983 SPECIFICATION FOR FLANNELETTES

(Second Revision)

[*Page* 6, *Table* 2, *Sl No.* (iv)(a)] — Substitute the following for the existing matter:

"a) Washing, Test 1		IS : 687-1979§
1) Change in colour	3 or better	
2) Staining of adjacent fabrics	3 or better	

NOTE — The material to be supplied to the Ministry of Defence shall have a rating of '4 or better' in respect of change in colour and staining of adjacent fabrics."

(TDC 2)

Printed at New India Printing Press, Khurja, India

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SPECIFICATION FOR FLANNELETTES
(Second Revision)

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(*Continued on page* 2)

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(*Continued on page* 10)

Indian Standard

SPECIFICATION FOR FLANNELETTES

(Second Revision)

0. FOREWORD

0.1 This Indian Standard (Second Revision) was adopted by the Indian Standards Institution on 31 March 1983, after the draft finalized by the Cotton and Cotton Products Sectional Committee had been approved by the Textile Division Council.

0.2 This standard originally published in 1951 was first revised in 1965. In this revision requirements for dyed flannelettes have been included. Opportunity has also been taken to make reference to the latest versions of the relevant Indian Standards on methods of test, packing, etc, and also to make the standard up-to-date in other respects.

0.3 This standard is based on IND/TC/0148 'Flannelettes, lining' issued by the Ministry of Defence, Government of India.

0.4 *Standards of Weights and Measures Act,* 1976 stipulates the use of International Systems of Units in the country; in order to familiarize the industry with this system, the recommended SI units for use in the textile industry are given in Appendix A.

0.5 This standard contains clauses **3.3**, **5.1** and Table 1 (length and width) which call for agreement between the buyer and the seller for permitting the buyer to use his option for selection to suit his requirements.

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS:2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

1. SCOPE

1.1 This standard prescribes constructional details and other particulars of flannelettes, scoured or dyed.

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*Rules for rounding off numerical values (*revised*).

1.2 This standard does not specify the general appearance, feel, etc, of flannelettes (*see also* **3.3**).

2. MANUFACTURE

2.1 Yarn—The cotton yarn used in the manufacture of flannelettes cloth shall be satisfactory in evenness and reasonably free from neps and spinning defects.

2.2 Cloth — The cloth shall be woven in plain weave.

2.2.1 The cloth shall be raised on both sides.

2.2.2 The cloth shall be free from spinning, weaving and processing defects. It shall be free from dressing and filling agents and substances liable to cause subsequent tendering.

3. REQUIREMENTS

3.1 The constructional particulars of the flannelettes shall conform to those given in Table 1 excepting the count of warp and weft yarn which have been given only for guidance.

3.2 The chemical and other requirements of the flannelettes shall conform to those given in Table 2.

3.3 Sealed Sample — If, in order to illustrate indeterminable characteristics, such as general appearance, lustre, feel and shade of the flannelettes, a sample has been agreed upon and sealed, the supply shall be in conformity with the sample in such respects.

3.3.1 The custody of the sealed sample shall be a matter of prior agreement between the buyer and the seller.

4. MARKING

4.1 The cloth shall be marked with the following:

a) Name of the material;
b) Length and width of the piece;
c) Manufacturer's name, initials or trade-mark, if any; and
d) Month and year of manufacture.

4.1.1 The flannelettes may also be marked with the ISI Certification Mark.

NOTE – The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

TABLE 1 CONSTRUCTIONAL PARTICULARS OF COTTON FLANNELETTES

(*Clause* 3.1)

APPROXIMATE COUNT OF YARN COTTON COUNT (tex)		ENDS / cm	PICKS/ cm	MASS g/m^2	BREAKING LOAD ON 5·0×20 cm (RAVALLED STRIP METHOD), *Min*		LENGTH *Min*	WIDTH	WEAVE
Warp	Weft				Warp	Weft			
(1)	(2)	(3)	(4)	(5)	(6) N (kgf)	(7) N (kgf)	(8)	(9)	(10)
28s (21 tex)	10s (60 tex)	17	19	155	175(18)	175(18)	36 or as agreed	124 cm	Plain or as agreed
Tolerance, percent	—	±5	±5	$^{+5}_{-2·5}$	—	—	—	$^{+1}_{-0}$ cm	—
Method of test	—	IS:1963-1981*		IS:1964-1970†	IS:1969-1968‡		IS:1954-1969§	—	Visual

NOTE — 1 Newton (N) is approximately equal to 0·102 kgf.

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*Methods for determination of threads per decimetre in woven fabrics (*second revision*).

†Methods for determination of weight per square metre and weight per linear metre of fabrics (*first revision*).

‡Method for determination of breaking load and elongation at break of woven textile fabrics (*first revision*).

§Methods for determination of length and width of fabrics (*first revision*).

5. PACKING

5.1 The flannelettes shall be packed in bales or cases in conformity with the procedure laid down in IS: 1347-1972*, or in IS: 293-1980†, as required.

6. SAMPLING

6.1 The scale of sampling and criteria for conformity as given in IS: 3919-1966‡ shall be followed in respect of physical characteristics, namely, ends and picks, mass, breaking load, length and width of flannelettes.

6.2 The scale of sampling and criteria for conformity as given in IS: 5463-1969§ shall be followed in respect of the chemical characteristics, namely, *p*H value, dimensional changes (shrinkage or elongation) scouring loss and colour fastness of flannelettes.

TABLE 2 CHEMICAL AND OTHER REQUIREMENTS OF COTTON FLANNELETTES

(*Clause* 3.2)

SL No.	CHARACTERISTIC	REQUIREMENT	METHOD OF TEST
(1)	(2)	(3)	(4)
i)	Scouring loss, percent, *Max*	3·0	IS: 1383-1977* (Mild Method)
ii)	*p*H value	6·0 to 8·5	IS: 1390-1961† (Cold Method)
iii)	Dimensional changes (Shrinkage or elongation), percent, *Max*	Warp 3·0 Weft 2·0	IS: 2977-1964‡
iv)	Colour fastness to		
	a) Washing, Test 1	3 or better	IS: 687-1979§
	b) Light	4 or better	IS: 686-1957‖ or IS: 2454-1967¶

*Method for determination of scouring loss in grey and finished cotton textile materials (*first revision*).

†Methods for determination of *p*H value of aqueous extracts of textile materials.

‡Method for determination of dimensional changes of woven fabrics (other than wool) on soaking in water.

§Method for determination of colour fastness of textile materials to washing: Test 1 (*second revision*).

‖Method for determination of colour fastness of textile materials to daylight.

¶Methods for determination of colour fastness of textile materials to artificial light (xenon lamp).

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*Specification for inland packaging of cotton cloth and yarn (*first revision*).

†Specification for seaworthy packaging of cotton clothing and yarn (*third revision*).

‡Methods for sampling cotton fabrics for determination of physical characteristics.

§Methods for sampling of cotton fabrics for chemical tests.

APPENDIX A

(*Clause* 0.4)

RECOMMENDED SI UNITS FOR TEXTILES

SL No.	CHARACTERISTIC	SI UNIT		APPLICATION
		Unit(s)	Abbreviation(s)	
(1)	(2)	(3)	(4)	(5)
1.	Length	Millimetre	mm	Fibre
		Millimetre, centimetre	mm, cm	Samples, test specimens (as appropriate)
		Metre	m	Yarns, ropes, cordage, fabrics
2.	Width	Millimetre	mm	Narrow fabrics
		Centimetre	cm	Other fabrics
		Millimetre, centimetre	mm, cm	Samples, test specimens (as appropriate)
		Centimetre, metre	cm, m	Carpets, druggets, *DURRIES* (as appropriate)
3.	Thickness	Micrometre (micron)	µm	Delicate fabrics
		Millimetre	mm	Other fabrics, carpets felts
4.	Linear density	Tex	tex	Yarns
		Millitex	mtex	Fibres
		Decitex	dtex	Filaments, filament yarns
		Kilotex	ktex	Slivers, ropes, cordage
5.	Diameter	Micrometre (micron)	µm	Fibres
		Millimetre	mm	Yarns, ropes, cordage

Sl No.	Characteristic	SI Unit		Application
		Unit(s)	Abbreviation(s)	
(1)	(2)	(3)	(4)	(5)
6.	Circumference	Millimetre	mm	Ropes, cordage
7.	Threads in fabric:			Woven fabrics (as appropriate)
	a) Lengthwise	Number per centimetre	ends/cm	
		Number per decimetre	ends/dm	
	b) Widthwise	Number per centimetre	picks/cm	
		Number per decimetre	picks/dm	
8.	Warp threads in loom	Number per centimetre	ends/cm	Reeds
9.	Stitches in knitted fabric:			Knitted fabrics (as appropriate)
	a) Lengthwise	Courses per centimetre	courses/cm	
		Courses per decimetre	courses/dm	
	b) Widthwise	Wales per centimetre	wales/cm	
		Wales per decimetre	wales/dm	
10.	Stitch length	Millimetre	mm	Knitted fabrics, made-up items
11.	Mass per unit area	Grams per square metre	g/m^2	Fabrics
12.	Mass per unit length	Grams per metre	g/m	Fabrics
13.	Twist	Turns per centimetre	turns/cm	Yarns, ropes, cordage (as appropriate)
		Turns per metre	turns/m	
14.	Test or gauge length	Millimetre, centimetre	mm, cm	Fibre, yarn and fabric specimens (as appropriate)

SL No.	CHARACTERISTIC	SI UNIT		APPLICATION
		Unit(s)	Abbreviation(s)	
(1)	(2)	(3)	(4)	(5)
15.	Breaking load	Millinewton	mN	Fibres, delicate yarns (individual or skeins)
		Newton	N	Strong yarns (individual or skeins), ropes, cordage, fabrics
16.	Breaking length	Kilometre	km	Yarns
17.	Tenacity	Millinewton per tex	mN/tex	Fibres, yarns (individual or skeins)
18.	Twist factor or twist multiplier	Turns per centimetre × square root of tex	turns/cm × $\sqrt{\text{tex}}$	Yarns (as appropriate)
		Turns per metre × square root of tex	turns/m × $\sqrt{\text{tex}}$	
19.	Bursting strength	Newton per square centimetre	N/cm^2	Fabrics
20.	Tear strength	Millinewton, newton	mN, N	Fabrics (as appropriate)
21.	Pile height	Millimetre	mm	Carpets
22.	Pile density	Mass of pile yarn in grams per square metre per millimetre pile height	$g/m^2/mm$ pile height	Pile carpets
23.	Elastic modulus	Millinewton per tex per unit deformation	mN/tex/unit deformation	Fibres, yarns, strands

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